

REMARKS

Reconsideration is requested in view of the following remarks.

Claims 1, 2, 4-8, and 11 are pending.

Drawings

Applicants have repeatedly requested confirmation that the drawings are accepted.

However, once again, the Office Action Summary page did not confirm that the drawings are accepted. See box 10 in the Application Papers section.

Applicants respectfully request confirmation that the drawings are accepted in the next Official communication.

Claim Rejections – 35 USC § 103

Claims 1, 2, 4-8, and 11 were rejected under 35 USC 103(a) as being unpatentable over Thomas et al. (US 6291054) in view of Anderson et al. (US 2002/0082524) and Mori et al. (US 2002/0172829). Applicants traverse the rejection.

Regarding claim 1, the rejection stated that Thomas et al. teaches a metal surface having a fluororesin coating layer and particulate matter “baked as a single unit” (page 2 of the Office Action). Applicants respectfully contend that the rejection has mischaracterized the teaching in Thomas et al.

The rejection has identified the ceramic particles in Thomas et al. as the particulate matter recited in claim 1 (see page 2 of the Office Action). However, Thomas et al. specifically teaches that the ceramic particles are structurally separate from the coating layer (see Fig. 1). The ceramic particles are not one of the coating layers of the reference.

Thomas et al. teaches that “a resultant composite structure can be baked to fuse all the coatings at the same time to form a non-stick coating on the substrate” (column 8, lines 61-63). “All the coatings” refers to an undercoat and overcoat layers for a multi-coat system (see column 8, lines 47-60). Accordingly, this portion of Thomas et al. teaches that multiple coatings of fluoropolymer-containing layers are applied to a metal surface by conventional methods and then the coating layers baked to be fused together. Thomas et al. does not teach that the coating layers and the particulate matter are “baked to a single unit.” Accordingly, Thomas et al. teaches a multi-coat system of multiple coating layers and ceramic particles, wherein the multiple

coating layers are baked to be fused, but the ceramic particles are not fused with the coating layers and remain structurally separate from the coating layers.

Baking ceramic particles and fluoropolymer coating to be fused to a single unit is not even contemplated in Thomas et al. In fact, Applicants respectfully submit that it is a near physical and chemical impossibility for the coating layer and the ceramic particles taught in Thomas et al. to be “baked to a single unit.” Therefore, the rejection relies on a mischaracterization of the teaching in Thomas et al. and has concluded erroneously that Thomas et al. teaches that particulate matter and coating layer are baked to a single unit.

Further, the rejection stated that the recited feature of “the fluororesin coating layer and the particulate matter of fluororesin are compatible and melt into a single unit” is a product-by-process claim (see page 6 of the Office Action). Applicants do not concede the correctness of the of the rejection.

However, assuming *arguendo* that the recited feature of “the fluororesin coating layer and the particulate matter of fluororesin are compatible and melt into a single unit” can be considered a product-by-process feature, which Applicants do not concede, product-by-process claims nonetheless are limited by the structure implied by the steps of the process (see MPEP 2113 and *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)). Accordingly, even under a product-by-process interpretation, the Examiner must consider any structure implied by the process steps recited in the claim. Claim 1 recites that the particulate matter and the coating layer are melted “into a single unit.” Thus, if the step of “melt into” is identified to be the process step, then the “single unit” qualifies as the implied structure, which would mean that claim 1 requires the particulate matter and the coating layer to be a single unit structure.

Thomas et al. fails to teach a structure wherein the particulate matter and the coating layer are structurally a single unit. Anderson et al. does not remedy this deficiency. Mori et al. teaches that the fluorine-containing particles and the non-fluorine-containing polymer “are not fused or dissolved but they retain their particulate shapes” (paragraph [0032]). Accordingly, Mori et al. teaches that the fluorine-containing polymer particles are separate and distinct units from the coating layer. Therefore, Mori et al. does not remedy the deficiencies of Thomas et al. and Anderson et al.

Thus, even if the recited feature of “the fluororesin coating layer and the particulate matter of fluororesin are compatible and melt into a single unit” is a product-by-process feature,

the combination of Thomas et al., Anderson et al., and Mori et al. fail to meet the structure of the fluororesin coating layer and the particulate matter of fluororesin being a single unit.

Further, Applicants respectfully note that prior art must be considered in its entirety, including disclosures that teach away from the claims (see MPEP § 2141.02). Thomas et al. teaches away from using fluororesin particles as particulate matter mixed in the coating layer. Thomas et al. teaches ceramic particles that deflect abrasion forces away from the coating layer (see column 2, lines 13-14). Thomas et al. teaches that “abrasion refers to the amount of coating that is worn away as may occur by rubbing or sanding wherein the coating fibrillates and breaks away or shreds from the surface. In damaging a coated substrate, scratch may be followed by abrasion, in that a knife which causes plastic deformation of the coating, may also lead to the formation of fibrils which are subsequently worn away.” (column 1, lines 23-30).

Thomas et al. teaches that fluororesin materials are incapable of deflecting abrasion forces. Applicants respectfully direct the Examiner’s attention to Table 2 in Thomas et al. which clearly shows Example 1-1 having 100% Abrasion and all Examples having Abrasion % wear (also see Figs. 3-4). Thomas et al. teaches the ceramic particles are needed to reduce the abrasion of the fluoropolymer coating layer because fluororesin materials are incapable of deflecting abrasion forces.

Thus, even if Thomas et al. teaches that the particulate matter may include a variety of materials, which Applicants do not concede, Thomas et al. clearly demonstrates with experimental data that fluororesin particles suffer 100% loss due to abrasion. One skilled in the art clearly would understand that a material that suffers 100% loss due to abrasion is incapable of deflecting abrasive forces from the coating. Thus, Thomas et al. considered in its entirety teaches away from using fluororesin materials as particulate matter.

Further, an Examiner’s proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference (see MPEP § 2143.01). The present proposed modification of replacing the ceramic particulate matter in Thomas et al. with fluororesin particles of Mori et al., would result in 100% loss of the fluororesin material that make up the particulate matter. Thus, the proposed modification would prevent Thomas et al.’s device from working as originally intended, that is, the proposed modification would be incapable of deflecting abrasion forces away from the coating layer to prevent the abrasion of the coating layer.

Further, in rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. *See In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). The Examiner cannot satisfy this burden through “mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l. v. Teleflex Inc.* 127 S. Ct. 1727, 1741, 82 USPQ 2d 1385, 1396 (2007) (citing *In re Kahn*, 441 F.3d 977, 988, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006)). Accordingly, the rejection must address all limitations of the claims. Further, the rejection must provide analysis supporting any rationale why a person skilled in the art would combine the prior art to arrive at the claimed invention, and “[such] analysis should be made explicit,” *KSR*, 127 S.Ct. at 1741.

Even if the ceramic particles of Thomas et al. can be replaced by fluoro-resin particles of Mori et al., which Applicants do not concede, the Examiner must still identify a basis for making the modification. The Examiner has failed to provide the required explicit analysis in supporting the rationale why one skilled in the art would be motivated to combine Thomas et al. and Anderson et al.

The rejection stated that motivation to combine the surface coating in Thomas et al. with the guide wire in Anderson et al. is to “produce a guide wire having a durable, non-stick coating with super abrasion resistance” (page 3 of the Office Action). Applicants respectfully note that the properties of “durable, non-stick coating with super resistance” may be advantageous to a device like a frying pan, wherein optimal release of food therefrom, and resistance to scratches due to knife or rubbing metal tools are desirable (see Thomas et al., column 1, lines 13-28). Thus, the Examiner’s position is that one skilled in the art of medical guide wires would find properties desirable for a frying pan to be also desirable for a medical guide wire. Applicants respectfully disagree. Applicants respectfully submit that medical guide wires are not intended to come into contact with food or knives and metal tools for cooking. Accordingly, it is unreasonable to conclude that one skilled in the art of medical guide wires would consider properties of a frying pan surface to be relevant for medical guide wire surfaces. Further, Applicants also submit that it is unreasonable to conclude that one skilled in the art of medical guide wires would be motivated to achieve surface properties in medical guide wires that are the same as those of a frying pan. It is also unreasonable to conclude that one skilled in the art of

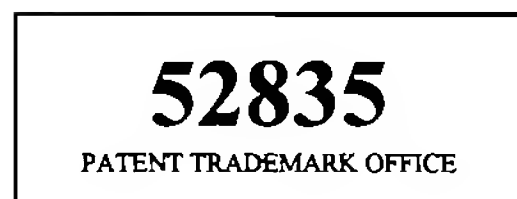
frying pans would contemplate that surface materials for frying pans would be applicable or desirable on medical guide wires.

The rejection failed to address all structural limitations of the claim 1. The rejection failed to provide an explicit analysis of the motivation necessary for combining the cited art. The rejection relied on a combination wherein the combination would prevent the device in Thomas et al. from working as originally intended.

For at least the above reasons, claim 1 is patentable over Thomas et al. in view of Anderson et al. and further in view of Mori et al. Claims 2, 4-8 and 11 are patentable for at least the same reasons as claim 1 from which they depend. Applicants respectfully request a favorable reconsideration of the claims.

Further, Applicants respectfully request consideration of the evidence presented in the Declaration under 37 C.F.R. §1.132 submitted with this paper. The Declaration includes information concerning the present invention and the references on pages 3-6. The Declaration also includes evidence of commercial success on pages 7-9. The Declaration further supports the unobviousness of the present invention.

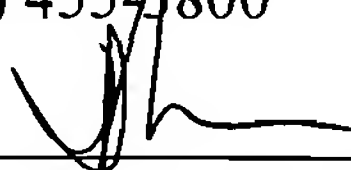
In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612) 455-3804.



Dated: October 5, 2010

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902
Minneapolis, MN 55402-0902
(612) 455-3800

By: 

Douglas P. Mueller
Reg. No. 30,300
DPM/ajk